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DOCUMENTATION RECORDS
FOR
HAZARD RANKING SYSTEM

INSTRUCTIONS: The purpose of these records is to provide a convenient way to prepare an auditable record of the data and documentation used to apply the Hazard Ranking System to a given site. The source of information should be provided for each entry and should be a bibliographic-type reference that will allow anyone to find the document used for a given data point. Include the location of the document and consider appending a copy of the relevant page(s) for ease in review by any interested party.

FACILITY NAME: CAHOKIA / DEAD CREEK

LOCATION: SAUGET, IL. (ST. CLAIR COUNTY)

1 OBSERVED RELEASE

Contaminants detected off site (5 maximum):

PCB's, chloroaniline, dichlorobenzene, copper, magnanese, lead, cyclohexane, chlorophenol, aliphatic hydrocarbons, silver, nickel, arsenic, cadmium, phosphorous

Reasoning by which the presence of the detected contaminants can be attributed to the facility:

Found in IEPA monitoring wells surrounding the site
Wastes corresponds to waste of several industries in the area
Site is surrounded by various industries
SOURCE: "A Preliminary Hydrogeologic Investigation in the Northern Portion of Dead Creek & Vicinity" By Ron St. John, 4/81, IEPA Report pp. 34-39

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2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifers(s) of concern:

NOT APPLICABLE (N/A) - OBSERVED RELEASE (O.R.)

Depth(s) from the ground surface to the highest seasonal level of the saturated zone [water table(s)] of the aquifer of concern:

N/A - O.R.

Depth from the ground surface to the lowest point of waste disposal/ storage:

N/A - O.R.

Net Precipitation

Mean annual or seasonal precipitation:

N/A - O.R.

Mean annual lake or seasonal evaporation:

N/A - O.R.

Net precipitation (subtract the above figures):

N/A - O.R.

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

N/A - O.R.

Permeability associated with soil type:

N/A - O.R.

Physical State

Physical state of waste at time of disposal (or generated gases):

N/A - O.R.

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3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

N/A - O.R.

Method with highest score:

N/A - O.R.

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:	TOXICITY	PERSISTENCE
PCB's	3	3
Chloroaniline	3	1
dichloro benzene	2	2
cyclohexane	2	2

Compound with highest score:

SOURCE: SAX & NFPA DATA

SCORES A (18)

Hazardous Waste Quantity

Total quantity of hazardous waste at the facility (excluding those with a containment score of 0):

UNKNOWN - AREA HAS BEEN USED AS SEVERAL LANDFILLS SINCE 1937 AND NO RECORDS ON AMOUNT HAS BEEN KEPT

Basis of estimating and/or computing waste quantity:

SOURCE: "A Preliminary Hydrogeologic Investigation in the Northern Portion of Acid Creek & Vicinity" By Ron St. John, 4/81, DEPA Report

* * * SCORES A (0)

.5 [illegible]

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

Industrial / Commercial - SOURCE: IL. STATE WATER SURVEY
Mississippi River is major water source in the area

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

< 2000 ft : Monsanto well upgradient to GW flow but causes cone of depression in water table → contaminated well

Distance to above well or building:

< 2000 ft. SCORES A (4)

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified public-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius:

NONE

Private - industrial → Trade Supply Inc → used bottled H_2O for drinking
Amax
Cerro Corp

Population served by each above public-supply well and how computed:

PSW - 0 SOURCE: ISWS

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):

N/A

Total population served by ground water within a 3-mile radius:

0

Industrial use only SCORES A (0)

1 OBSERVED RELEASE

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

PCB's, Chloroaniline, dichlorobenzene, cyclohexane, Chlorophenol

Reasoning by which the presence of the detected contaminants can be attributed to the facility:

Contaminants deposited directly into waters - Lab. analysis of creek downstream & certain company holding ponds show waste analysis of the same type
SOURCE: ST. JOHN's REPORT

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2 ROUTE CHARACTERISTICS

Facility Slope and Intervening Terrain

Average slope of facility in percent:

N/A - O.R.

Name/description of nearest downslope surface water:

N/A - O.R.

Average slope of terrain between facility and above-cited surface water body in percent:

N/A - O.R.

Is the facility located either totally or partially in surface water?

N/A - OR.

Is the facility completely surrounded by areas of higher elevation?

N/A -OR

1-Year 24-Hour Rainfall in Inches

N/A - O.R.

Distance to Nearest Downslope Surface Water

N/A - O.R.

Physical State of Waste

N/A - O.R.

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3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

N/A - O.R.

Method with highest score:

N/A - O.R.

4 WASTE CHARACTERISTICS

Refer to Ground Water Route

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5 TARGETS

Surface Water Use

Use(s) of surface water within 3 miles downstream of the hazardous substance:

Recreation - children play in creek

SCORES A (2)

Is there tidal influence?

NO

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

> 2 mile

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

> 1 mile

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

> 1 mile SCORES A (0)

Population Served by Surface Water

Location(s) of public-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance:

None

Population served by each above public-supply intake:

None

Computation of land area irrigated by above-cited intake(s) and conversion to population (1.5 people per acre):

N/A

Total population served:

0

Name/description of nearest of above water bodies:

Dead Creek

Distance to above-cited intakes, measured in stream miles.

N/A

TOTAL: SCORES A (0)

1 OBSERVED RELEASE

Contaminants detected:

No specifics - just a survey to get a plus or minus reading (check for spots above background)

Source: FIT memo 4/14/82 by Don Woods

Date and location of detection of contaminants

3/23/82

North end of Dead Creek - just south of Quaamy Ave.

Methods used to detect the contaminants:

Organic Vapor Analyzer

2 - HNU photo-ionizer 10.2 ev lamp
11.7 ev lamp

Explosimeter, Radiation survey meter, O_2 Indicator

Reasoning by which the presence of the detected contaminants can be attributed to the site:

Absorption of contaminants with the soil, a buried pipe was found entering the creek with a turbid & oily liquid coming from it. Midwest Rubber use to pipe their waste into the creek (creek bed is spongy when you walk on it)

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2 WASTE CHARACTERISTICS

Reactivity and Incompatibility

Three most reactive compounds (indicate one used):

Phosphorous

Arsenic SCORES A (1)

Three most incompatible pairs of compounds (indicate one used):

Toxicity

Three most toxic compounds (indicate one used):

PCB's 3
Dichlorophenol 3
Chloroaniline 3

Hazardous Waste Quantity

Total quantity of hazardous waste:

UNKNOWN

Basis of estimating and/or computing waste quantity:

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3 TARGETS

Population Within 4-Mile Radius

Circle radius used, give population, and indicate how determined:

1 to 4 mi (1/2 to 1 mi) 1/4 to 1/2 mi 0 to 1/4 mi

6,100 people

Scores A (21)

Distance to a Sensitive Environment

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

> 2 miles

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

> 1 mile

Distance to critical habitat of an endangered species, if 1 mile or less:

> 1 mile SCORES A (0)

Land Use

Distance to commercial/industrial area, if 1 mile or less:

< ¼ mile (~2000 ft) Topo map & FIT inspection

SCORES A (3)

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

None

Distance to residential area, if 2 miles or less:

< ¼ mile topo map & FIT inspection

SCORES A (2)

Distance to agricultural land in production within past 5 years, if 1 mile or less:

< ¼ mile topo map & FIT inspection

SCORES A (2)

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

< ½ mile topo map & FIT inspection

SCORES A (2)

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

NO - only the St. Louis Arch

FIRE AND EXPLOSION - PICTURES FROM USEPA FILE OF CREEK BED ON FIRE

CONTAINMENT → WASTE DUMPED WITH NO SEGREGATION
SCORES A (3)

WASTE CHARACTERISTICS

DIRECT EVIDENCE → no measurements, but photographs of creek bed on fire
SCORES A (2)

IGNITABILITY → SCORES A (3)

	TOXICITY	PERSISTENCE	IGNITABILITY	REACTIVITY
Chlorobenzene	2	2	3	0
Dichlorophenol	3	1	0	0
Chloroaniline	3	1	1	0
PCB	3	3	0	0
Phosphorous	3	1	3	1
Arsenic	2	1	0	1
Cyclohexane	2	2	3	0

SOURCE: SAX AND NFPA DATA
REACTIVITY → SCORES A (1)
INCOMPATIBILITY → SCORES A (1)

HAZ. WASTE QUANTITY → UNKNOWN: SCORES A (0)

TARGETS

DIST. TO NEAREST POP.

201 ft - 2640 ft SCORES A (3)

SOURCE: U.S.G.S. TOPO MAP (DIST ~ 500 ft)

DIST. TO NEAREST BLDG.

51 - 200 ft SCORES A (2)

SOURCE: U.S.G.S. TOPO MAP (DIST ~ 55 ft)

DIST TO SENSITIVE ENVIR. → SCORES A (0)

LAND USE → SCORES A (3) (see air section)

POP. W/IN 2 MILE RADIUS → 12,239: 1/8 of E. St. Louis & 1520 bldgs counted off of map × 3.8 people/bldg.
(E St. Louis: 51700 pop)
51700/8 = 6463 people SCORES A (5)

BLDGS. W/IN 2 MI. RAD. → 1520 counted; 6463/3.8 = 1700 TOTAL: 3220

DIRECT CONTACT

OBSERVED INCIDENT → Yes, resident's dog rolled in ditch and died of apparent chemical burns in Aug. 1980 SOURCE: ST JOHN'S REPORT

WASTE CHARACTERISTICS: TOXICITY - PCB's = 3 SCORES A (3)
TARGETS: POP W/IN 1 MI. RAD. - 6,100 SCORES A (4)

DIST. TO CRITICAL HABITAT: SCORES A (0)